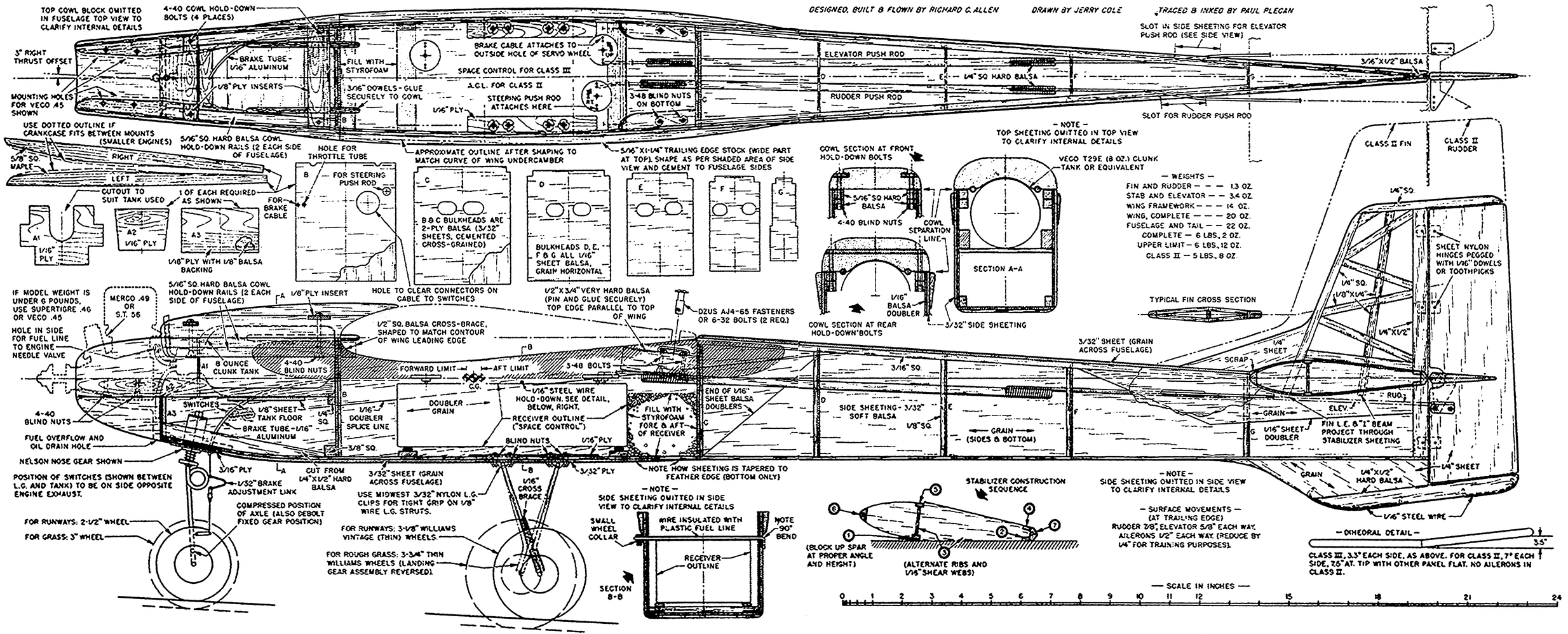
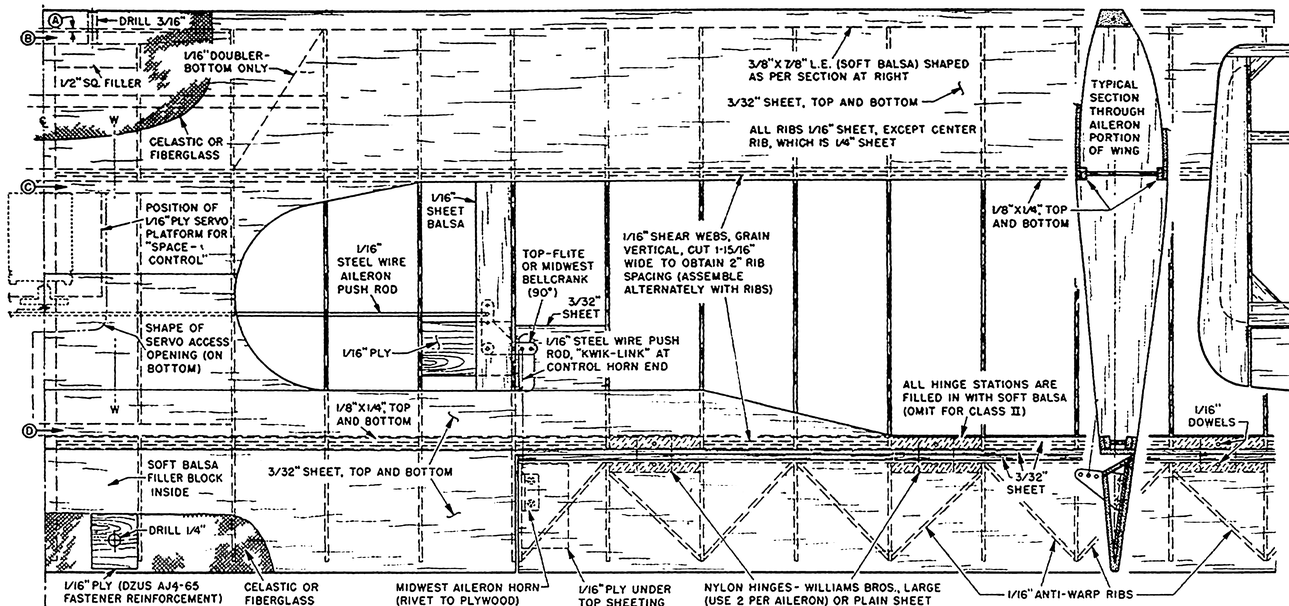
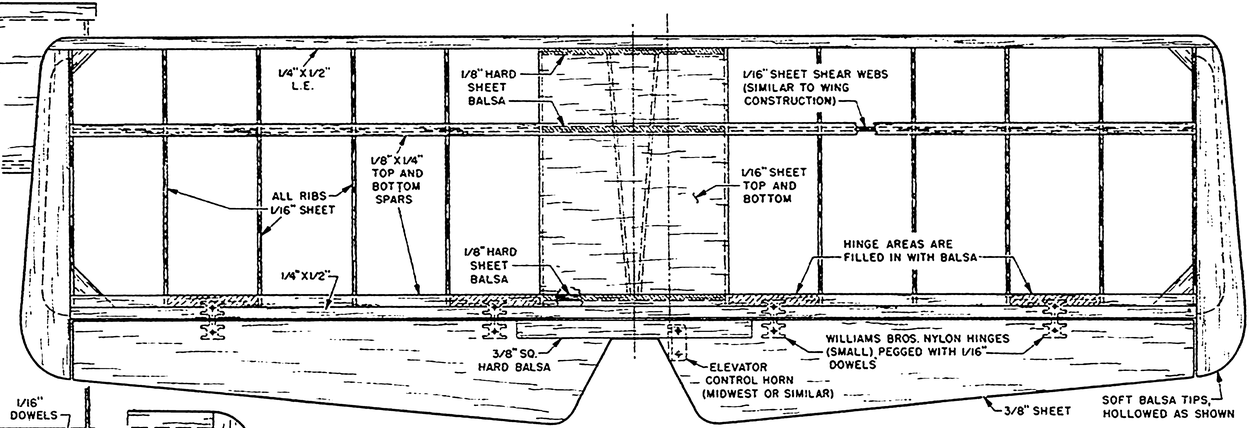
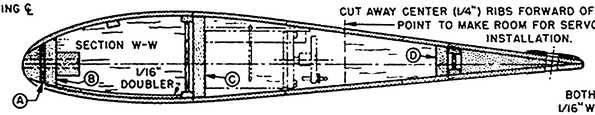
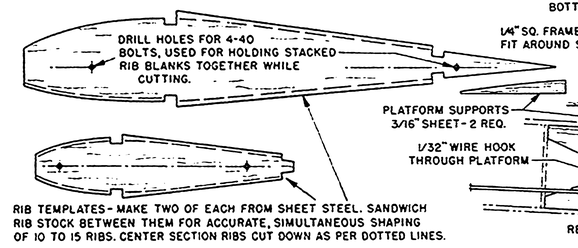

DESIGNED, BUILT & FLOWN BY RICHARD C. ALLEN
DRAWN BY JERRY COLE
TRACED & INKED BY PAUL PLEGAN
TOP COWL BLOCK OMITTED IN FUSELAGE TOP VIEW TO CLARIFY INTERNAL DETAILS
4-40 COWL HOLD-DOWN BOLTS (4 PLACES)
3° RIGHT THRUST OFFSET
MOUNTING HOLES FOR VECO .45 SHOWN
BRAKE TUBE - 1/16" ALUMINUM
1/8" PLY INSERTS
FILL WITH STYROFOAM
3/16" DOWELS - GLUE SECURELY TO COWL
BRAKE CABLE ATTACHES TO OUTSIDE HOLE OF SERVO WHEEL
SPACE CONTROL FOR CLASS III
A.C.L. FOR CLASS II
STEERING PUSH ROD ATTACHES HERE
1/16" PLY
3-48 BLIND NUTS ON BOTTOM
ELEVATOR PUSH ROD
1/4" SQ HARD BALSA
RUDDER PUSH ROD
SLOT IN SIDE SHEETING FOR ELEVATOR PUSH ROD (SEE SIDE VIEW)
3/16" X 1/2" BALSA
SLOT FOR RUDDER PUSH ROD
USE DOTTED OUTLINE IF CRANKCASE FITS BETWEEN MOUNTS (SMALLER ENGINES)
5/16" SQ. HARD BALSA COWL HOLD-DOWN RAILS (2 EACH SIDE OF FUSELAGE)
HOLE FOR THROTTLE TUBE
APPROXIMATE OUTLINE AFTER SHAPING TO MATCH CURVE OF WING UNDERCAMBER
5/16" X 1-1/4" TRAILING EDGE STOCK (WIDE PART AT TOP). SHAPE AS PER SHADED AREA OF SIDE VIEW AND CEMENT TO FUSELAGE SIDES
- NOTE - TOP SHEETING OMITTED IN TOP VIEW TO CLARIFY INTERNAL DETAILS
COWL SECTION AT FRONT HOLD-DOWN BOLTS
VECO T29E (8 OZ.) CLUNK TANK OR EQUIVALENT
5/16" SQ HARD BALSA
4-40 BLIND NUTS
COWL SEPARATION LINE
SECTION A-A
1/16" BALSA DOUBLER
COWL SECTION AT REAR HOLD-DOWN BOLTS
3/32" SIDE SHEETING
- WEIGHTS -
FIN AND RUDDER - - - 1.3 OZ.
STAB AND ELEVATOR - - 3.4 OZ.
WING FRAMEWORK - - - 14 OZ.
WING, COMPLETE - - - 20 OZ.
FUSELAGE AND TAIL - - 22 OZ.
COMPLETE - 6 LBS., 2 OZ.
UPPER LIMIT - 6 LBS., 12 OZ.
CLASS II - 5 LBS., 8 OZ.
CLASS II FIN
CLASS II RUDDER
1/4" SQ.
SHEET NYLON HINGES PEGGED WITH 1/16" DOWELS OR TOOTHPICKS
5/8" SQ. MAPLE
RIGHT
LEFT
CUTOUT TO SUIT TANK USED
1 OF EACH REQUIRED AS SHOWN
FOR BRAKE CABLE
FOR STEERING PUSH ROD
B & C BULKHEADS ARE 2-PLY BALSA (3/32" SHEETS, CEMENTED CROSS-GRAINED)
BULKHEADS D, E, F & G ALL 1/16" SHEET BALSA, GRAIN HORIZONTAL
1/16" PLY
1/16" PLY WITH 1/8" BALSA BACKING
HOLE TO CLEAR CONNECTORS ON CABLE TO SWITCHES
1/2" X 3/4" VERY HARD BALSA (PIN AND GLUE SECURELY) TOP EDGE PARALLEL TO TOP OF WING
DZUS AJ4-65 FASTENERS OR 6-32 BOLTS (2 REQ.)
TYPICAL FIN CROSS SECTION
1/4" SQ.
1/8" X 1/4"
1/4" X 1/2"
IF MODEL WEIGHT IS UNDER 6 POUNDS, USE SUPERTIGRE .46 OR VECO .45
MERCO .49 OR S.T. 56
5/16" SQ. HARD BALSA COWL HOLD-DOWN RAILS (2 EACH SIDE OF FUSELAGE)
1/8" PLY INSERT
1/2" SQ. BALSA CROSS-BRACE, SHAPED TO MATCH CONTOUR OF WING LEADING EDGE
HOLE IN SIDE FOR FUEL LINE TO ENGINE NEEDLE VALVE
8 OUNCE CLUNK TANK
4-40 BLIND NUTS
FORWARD LIMIT
AFT LIMIT
C.G.
3-48 BOLTS
3/16" SQ.
3/32" SHEET (GRAIN ACROSS FUSELAGE)
SCRAP
1/4" SHEET
SWITCHES
1/8" SHEET TANK FLOOR
BRAKE TUBE - 1/16" ALUMINUM
1/4" SQ.
1/16" DOUBLER SPLICE LINE
DOUBLER GRAIN
1/16" STEEL WIRE HOLD-DOWN. SEE DETAIL, BELOW, RIGHT.
RECEIVER OUTLINE ("SPACE CONTROL")
FILL WITH STYROFOAM FORE & AFT OF RECEIVER
END OF 1/16" SHEET BALSA DOUBLERS
SIDE SHEETING - 3/32" SOFT BALSA
1/8" SQ.
GRAIN (SIDES & BOTTOM)
GRAIN
ELEV.
RUD.
1/16" SHEET DOUBLER
FIN L.E. & "I" BEAM PROJECT THROUGH STABILIZER SHEETING
4-40 BLIND NUTS
FUEL OVERFLOW AND OIL DRAIN HOLE
NELSON NOSE GEAR SHOWN
3/8" SQ.
BLIND NUTS
1/16" PLY
NOTE HOW SHEETING IS TAPERED TO FEATHER EDGE (BOTTOM ONLY)
GRAIN
1/4" X 1/2" HARD BALSA
1/4" SHEET
1/16" STEEL WIRE
POSITION OF SWITCHES (SHOWN BETWEEN L.G. AND TANK) TO BE ON SIDE OPPOSITE ENGINE EXHAUST.
3/16" PLY
1/32" BRAKE ADJUSTMENT LINK
CUT FROM 1/4" X 1/2" HARD BALSA
3/32" SHEET (GRAIN ACROSS FUSELAGE)
3/32" PLY
1/16" CROSS BRACE
USE MIDWEST 3/32" NYLON L.G. CLIPS FOR TIGHT GRIP ON 1/8" WIRE L.G. STRUTS.
COMPRESSED POSITION OF AXLE (ALSO DEBOLT FIXED GEAR POSITION)
FOR RUNWAYS: 2-1/2" WHEEL
FOR GRASS: 3" WHEEL
FOR RUNWAYS: 3-1/8" WILLIAMS VINTAGE (THIN) WHEELS.
FOR ROUGH GRASS: 3-3/4" THIN WILLIAMS WHEELS (LANDING GEAR ASSEMBLY REVERSED).
- NOTE - SIDE SHEETING OMITTED IN SIDE VIEW TO CLARIFY INTERNAL DETAILS
SMALL WHEEL COLLAR
WIRE INSULATED WITH PLASTIC FUEL LINE
NOTE 90° BEND
RECEIVER OUTLINE
SECTION B-B
STABILIZER CONSTRUCTION SEQUENCE
(BLOCK UP SPAR AT PROPER ANGLE AND HEIGHT)
(ALTERNATE RIBS AND 1/16" SHEAR WEBS)
- NOTE - SIDE SHEETING OMITTED IN SIDE VIEW TO CLARIFY INTERNAL DETAILS
- SURFACE MOVEMENTS - (AT TRAILING EDGE)
RUDDER 7/8", ELEVATOR 5/8" EACH WAY.
AILERONS 1/2" EACH WAY. (REDUCE BY 1/4" FOR TRAINING PURPOSES).
- DIHEDRAL DETAIL -
3.5°
CLASS III, 3.3° EACH SIDE, AS ABOVE. FOR CLASS II, 7° EACH SIDE, 2.5° AT TIP WITH OTHER PANEL FLAT. NO AILERONS IN CLASS II.
- SCALE IN INCHES -
0 1 2 3 4 5 6 7 8 9 10 11 12 15 18 21 24

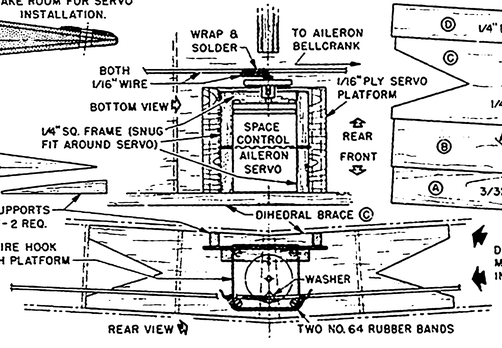


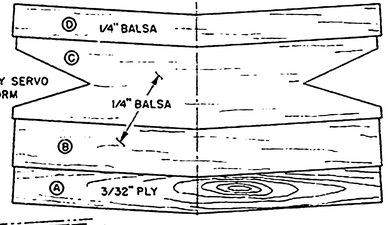
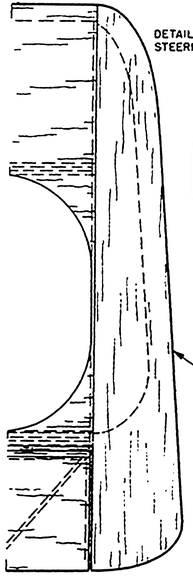
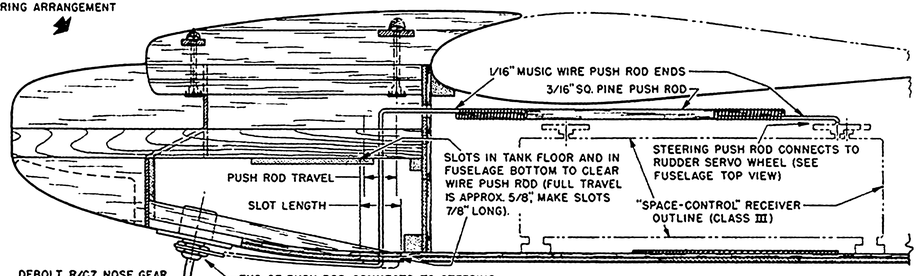
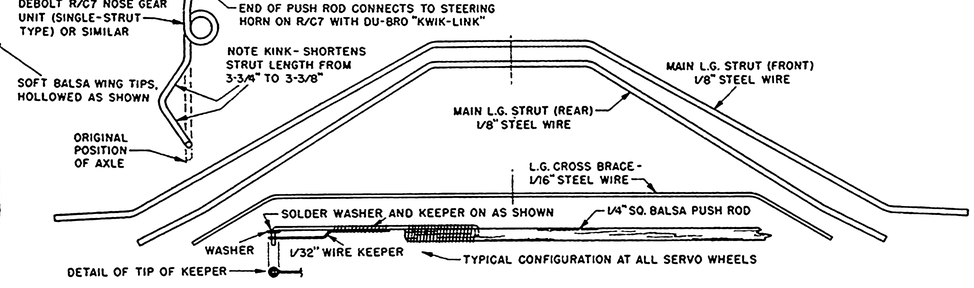




CUT AWAY CENTER (1/4") RIBS FORWARD OF THIS POINT TO MAKE ROOM FOR SERVO INSTALLATION.







DETAILS OF AILERON SERVO MOUNTING (SPACE CONTROL INSTALLATION ONLY)